INDEX

REBUTTAL TESTIMONY OF

BYRON G KEEP, GREGORY C. GUSTAFSON, GERARD C. BOLDEN,
WILLIAM J. DOUBLEDAY, GARY C. INSLEY, AND JON A. HIRSCH

Witnesses for Bonneville Power Administration

SUBJECT: Rebuttal Testimony for Rate Design

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Section 1. Introduction and Purpose of Testimony

Q. Please state your names and qualifications.

A. My name is Byron G. Keep. My qualifications are contained in WP-02-Q-BPA-34.

A. My name is Gregory C. Gustafson. My qualifications are contained in WP-02-Q-BPA-26.

A. My name is Gerard C. Bolden. My qualifications are contained in WP-02-Q-BPA-06.

A. My name is William J. Doubleday. My qualifications are contained in WP-02-Q-BPA-17.

A. My name is Gary C. Insley. My qualifications are contained in WP-02-Q-BPA-72.

A. My name is Jon A. Hirsch. My qualifications are contained in WP-02-Q-BPA-28.

Q. What is the purpose of your testimony?

A. The purpose of this testimony is to respond to the arguments raised by the Direct Service Industrial Customers (DSIs) and Montana Power Company (Montana Power) regarding electric power marginal cost rate design and the DSIs' tiered rate design proposal.

Q. How is your testimony organized?

A. This testimony is organized in three sections. Section 1 outlines the purpose of our testimony. Section 2 addresses arguments regarding marginal cost rate design generally. Section 3 addresses the DSIs' arguments regarding their specific tiered rates design proposal.

Section 2. Marginal Cost Rate Design

Q. The DSIs argue that Bonneville Power Administration (BPA) should adopt a tiered rate structure, with the second tier price set at market price, as a substitute for BPA's proposal to charge a rolled-in average of the cost of energy. Parmesano, WP-02-E-DS/AL-02, at 2. Do you agree?

A. No, BPA believes that the adoption of the DSI Tiered Rates structure would be inappropriate at this time. The DSI Tiered Rates Proposal and BPA's response is contained in Section 3 of this testimony.

Q. The DSIs state that sending customers marginal cost price signals through appropriately structured rates is essential for efficient use of electricity and expansion of system capacity. Parmesano, WP-02-E-DS/AL-02, at 2. Do you agree?

A. BPA believes that sending marginal-cost-based price signals will improve the efficient use of electricity. In fact, BPA designs its rates using marginal cost methods that are intended to reflect the relative market value of energy at different times of use. BPA's current rate design values the relative cost of energy consumption according to heavy load hours (HLH) and light load hours (LLH) as well as seasonally. BPA believes it would be inappropriate to make a fundamental change from the current rates design that uses the relative shapes of the marginal costs of electricity to shape rates, to a rate design that charges the actual marginal cost of electricity, without extensive regional consultation and review.

Q. The DSIs state that prudent consumers decide what types of energy to use, what types of appliances and equipment to purchase, and how much to use that equipment on the basis of costs. Parmesano, WP-02-E-DS/AL-02, at 4. Do you agree?

A. Yes, BPA agrees. Furthermore the economic infrastructure of the Northwest has been influenced over time by the very low electricity prices in the region. Those very low electricity prices have influenced a range of economic decisions from whether to use

electricity for space and water heating in our homes to whether to smelt aluminum in the region. For the most part, these are long-term choices and will take a long time to reverse or be replaced with new and different choices based on new price signals. For example, if an extreme price signal were to force consumers who heats water with electricity to choose to convert to gas, they would not all be able to react to the price signal simultaneously. Under an extreme marginal cost tiered rate design, the first person to convert to gas would get the benefit, simply by being first. BPA does not believe that the solution to a long-term problem, where consumers have limited ability to make a new choice, means that the person that gets in line first should receive the benefit and not have to help pay for a problem that everyone created.

Q. *The DSIs state that if the prices charged for energy are below marginal cost: (1) consumers use more than the optimal amount of energy; (2) utilities spend too much on transmission and distribution systems; and (3) Demand Side Management (DSM) programs that would be cost-effective if energy were priced efficiently are not. Parmesano, WP-02-E-DS/AL-02, at 7. Do you agree?*

A. Yes. BPA believes marginal cost pricing (marginal cost pricing) is an efficient pricing mechanism and as stated above, BPA currently uses relative marginal costs to shape rates. Also, it is unclear how much less efficient BPA's marginal-cost-shaped rates are when compared to rates set at actual marginal costs.

Q. *The DSIs state that the key to sending efficient price signals (when charging marginal cost for every unit would produce too much revenue) is to charge every consumer less than marginal cost for a fixed block of power smaller than total consumption, but charge the full marginal cost for all units above that first block. Consumers deciding to use*

more or less face the efficient marginal cost price, but they will on average pay a price less than marginal cost. Parmesano, WP-02-E-DS/AL-02, at 8. Do you agree?

A. As stated above, BPA believes in the economic theory that sending marginal price signals to the consumers of the marginal unit will improve the efficient allocation of a scarce resource. Also, BPA agrees that in the event that marginal cost pricing over-collects revenue, a way to avoid this is to charge less than marginal cost for some of the units purchased.

Q. The DSIs suggest that retail customers could be charged the lowest-cost tier price, based on their consumption for the same time period in the previous year. Parmesano, WP-02-E-DS/AL-02, at 8. Do you agree with this method of allocation?

A. No. Basing the allocation of lowest cost power on a previous year's usage means the most wasteful user in the previous year would be rewarded by receiving a higher allocation of least-cost resource during the current billing year. Also, this would imply that a consumer using more of the scarce resource is entitled to more of the least-cost resource, which we do not believe is necessarily the correct outcome.

Q. The DSIs state that the public agency customers of BPA have complete flexibility to adjust their rate structures to match a BPA tiered rate structure, and that the state regulatory commissions could allow the Investor-Owned Utility (IOU) customers of BPA to adjust their retail rate structures to include a tiered approach, passing on efficient price signals to retail customers. Parmesano, WP-02-E-DS/AL-02, at 8-9. Do you agree?

A. Yes, BPA agrees that utilities and IOUs could adjust their retail rate structures to include a tiered approach. *See* Burns, *et al.*, WP-02-E-BPA-75. However, contrary to the DSI's implication that tiered retail rates could be implemented with relative ease, BPA believes retail customers of public utilities might resist efforts to complicate their electricity bills.

Q. *The DSIs state that under BPA's rolled-in rate proposal, the utilities would have a clear financial disincentive to pass through the market price signal to consumers. Parmesano, WP-02-E-DS/AL-02, at 8-9. Do you agree?*

A. No, the IOUs and those public customers that are not full service customers of BPA have an incentive to pass through the full market price. They are not serving their entire load with BPA contracts and therefore have other power resources that can be remarketed at full market value or they have other market purchases that can be avoided. In addition, all customers have an incentive for DSM in the form of BPA's Conservation and Renewable Discount (C&R Discount).

Q. *The DSIs state that BPA's proposal envisioned that BPA would negotiate individually with IOUs and public agencies to buy down a portion of their loads, thus reducing BPA's expensive purchases. The DSIs believe this would be a cumbersome and time-consuming process with high transaction costs. The DSIs argue that the tiered rate approach gives the right price signal directly to every BPA customer and gives the utilities the flexibility to deal with that price as they see fit – through modifying their own rate structures, implementing DSM programs, offering targeted credits to customers most able to reduce their usage, etc. Parmesano, WP-02-E-DS/AL-02, at 10. Do you agree?*

A. No. BPA's buy-down option is not necessarily more cumbersome than tiered rates and can be managed effectively as BPA observes the impact of new rates on loads.

Q. *The DSIs state that explaining new rate structures to consumers would be very important to make the new structures effective. Since BPA has proposed to change wholesale rates every six months, customers will need to be educated about new arrangements. The DSIs*

believe this would be a good opportunity to restructure retail rates to give more efficient price signals. Parmesano, WP-02-E-DS/AL-02, at 10. Do you agree?

A. Yes, this would be a good opportunity to restructure retail rates. As stated above, BPA has encouraged its wholesale customers to pass on time-of-use and seasonal rates through its rate design. *See* Burns, *et al.*, WP-02-E-BPA-75.

Q. The DSIs state that determining who should be allocated how much of the low-cost supplies is largely an equity judgment. Parmesano, WP-02-E-DS/AL-02, at 11. Do you agree?

A. No. The allocation of the Federal Base System (FBS) is a legal issue based on statutory rights described in Section 7 of the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act). The Northwest Power Act gives first preference for BPA's low-cost inventory to public body, Federal agency customers, and loads under Residential Exchange. BPA believes that in the event the region opts for a tiered rate structure in some future BPA rate case, any allocation of low-cost tiered rate power should be guided by the Northwest Power Act.

Q. The DSIs conclude that BPA's proposal to charge all wholesale customers a price reflecting a weighted average of low-cost generation and expensive purchases would give inefficient price signals to all and give utilities strong financial incentive to not give efficient price signals to their retail customers. Parmesano, WP-02-E-DS/AL-02, at 12. Do you agree?

A. No. Depending on the wholesale price increase that results from BPA's proposal, customers will see an increase in their cost of energy purchases that will allow and encourage conservation and make some additional DSM measures economic.

Q. Montana Power states that BPA's failure to implement marginal cost pricing will exacerbate the counterproductive circumstances BPA has created for itself, its customers, and the region. These circumstances are primarily manifested in the dysfunctional

nature of the regional competitive wholesale power market (RCWM). Stauffer, WP-02-E-MP-01, at 1. Do you agree?

A. No. The dysfunctional RCMW is a direct result of the dysfunctional deregulated California market, by applying marginal cost pricing to all California IOU power purchases. California demonstrated that it is very easy to create a dysfunctional market using marginal cost pricing. The high prices seen in the Northwest are a result of high prices in California, since sellers in the northwest price their product based on their alternative market opportunity, which at this time is the California market. Obviously, BPA did not create this situation. The incorrect application of marginal cost pricing theory as applied to the deregulated California market caused the dysfunctional market. In fact, the California market debacle is a good argument for BPA and the region to thoroughly examine marginal cost pricing before implementing it in any rate structure.

Q. Montana Power states that without wholesale marginal cost pricing, BPA's customers have no incentive to explore alternative sources of power or conservation, and no incentive to pass marginal cost pricing signals on to their customers. Stauffer, WP-02-E-MP-01, at 2. Do you agree?

A. No. BPA gives customers an incentive to explore renewable resources and DSM measures through the C&R Discount in its rates. Also, BPA is encouraging its customers to pass through the time-of-use price signal included in BPA's rate structure. *See* Burns, *et al.,* WP-02-E-BPA-75.

Q. Montana Power states that BPA has decided to sign primarily five-year purchase contracts, and that therefore the regional deficits will continue because five-year

contracts are insufficient to cause developers to build new units. Stauffer, WP-02-E-MP-01, at 2. Do you agree?

A. No. BPA has a diverse strategy to augment its system that includes five-year purchases, as well as purchases of various terms of conservation, DSM, renewable resources, gas fired generation, and any other economically viable resources.

Q. *Montana Power states that BPA, as a single large buyer of five-year contracts – that do not provide incentive for new resource development – in a more than 3,000 Mwa[sic] deficit market, is a major contributor to the dysfunctional RCMW. Thus BPA has contributed to the exorbitant prices of the regional market that it and other regional utilities and industries reliant on the market have to pay. Stauffer, WP-02-E-MP-01, at 3. Montana Power further states that while recognizing that the region needs new resource development, BPA is implementing policies that impede that from happening. Id. at 5. Do you agree?*

A. No. As stated above, BPA has an aggressive program in place to negotiate for the output of new resources to be built and added to the supply of the RCMW. This program includes the pursuit of combined cycle combustion turbines, wind resources, geothermal resources, peaking resources, and DSM measures. BPA is aware of the possible deficits and is taking steps to improve the region's supply. Therefore BPA is a major contributor to the correction of this dysfunctional RCMW.

Q. *Montana Power states that the governors of the western states request utilities and state tribal utility commissions to adopt rate reforms that send more accurate price signals (or a proxy for such price signals) to consumers. This is the first step in empowering customers to make wise decisions about their energy use. Montana Power further states*

that the phrase "more accurate price signals" essentially means marginal cost pricing. Stauffer, WP-02-E-MP-01, at 7. Do you agree?

A. No. A "more accurate price signal" does not necessarily mean marginal cost pricing, since other factors such as time-of-use and seasonality are also more accurate price signals. BPA's rates reflect this through implementation of demand charges, HLH, and LLH rates by month. This is the proxy price signal that BPA is implementing in its rate structure. Many of BPA's wholesale customers do not pass these price signals through because the metering is not in place to pass time-of-use signals. BPA has set a policy that it will assist its wholesale customers, through the C&R Discount, to adopt time-of-use rates so that the end-use customer can respond to proper price signals. Burns, *et al.*, *WP-02-E-BPA-75*.

Q. Montana Power states that today's prices provide strong encouragement for utilities to pass marginal cost pricing signals on to their customers, so as to realize maximum price response. This would encourage millions of individual consumers to think about how to reduce their power bills by either conserving or reducing load. Stauffer, WP-02-E-MP-01, at 10. Do you agree?

A. No. BPA is encouraging its wholesale customers to adopt time-of-day pricing at the retail level. Currently individual consumers do not have time-of-use metering and therefore may not be able to respond to marginal cost pricing signals directly. They may conserve and reduce on a total monthly energy use; however, with the rising cost of energy due to BPA's rate increase, the region will likely see some price response without further rate structure changes.

Section 3. The Direct Service Industrial Customers Tiered Rate Proposal

Q. Please summarize the DSIs' tiered rate proposal.

A. The DSIs propose a two-tier rate structure that would make available to each customer, on a take-or-pay basis, a percentage of such customer's Subscription load priced at the

base rates adopted in BPA's May Proposal. Schoenbeck and Bliven, WP-02-E-DS/AL-01, at 6. This "Base Tier" rate purchase amount would be based upon the percent of BPA's forecasted Subscription load subject to Cost Recovery Adjustment Clause (CRAC) that BPA can serve out of its critical water inventory plus the already purchased augmentation. *Id.* The DSIs estimate that the average size of the Base Tier would be in the range of 72.6 percent to 76.7 percent of BPA's forecasted Subscription load subject to CRAC. *Id.* at 7-9. The size range is a function of whether or not each year's May and June loads and augmentation amounts are used in the calculation and how much pre-purchased augmentation to include in the calculation. *Id.* at 7-9. The DSIs argue that the augmentation amount purchased by BPA from August 1, 2000, to January 1, 2001, should be included to increase the size of the Base Tier, even though the cost of that augmentation exceeds the cost forecasted by BPA in the May Proposal. *Id.* At 10. The DSIs argue that the small extra cost should be recovered by adjusting the parameters of the Financial-Based CRAC. *Id.* at 10.

The DSIs propose that customer purchases beyond their Base Tier allocation be made at a "Marginal Tier" rate that would be set to recover the cost of augmentation purchases needed to serve the load. *Id.* at 7. The rates charged for Marginal Tier purchases would be the monthly base rates plus a per-kilowatthour Load-Based (LB) CRAC adder such that the resultant rates would be sufficient to recover the cost of BPA's augmentation purchases for service to Marginal Tier loads in that month. *Id.* at 11. In addition, the DSIs have made provisions in their LB CRAC Tiered Rates design to accommodate the Slice product. *Id.* at 12-13.

The DSIs propose different take-or-pay treatment for the Base Tier load and the Marginal Tier Load. *Id.* at 13. Each customer's Base Tier load entitlement would be take-or-pay, while their Marginal Tier Load entitlement amount would not be take-or-pay unless the customer notified BPA of its intention to take some or all of its Marginal Tier

power entitlement. *Id.* at 14. The DSIs argue that their tiered rates design would help BPA to shift some of the market risk to its customers for them to manage. *Id.*

Q. *Montana Power argues that the BPA's Administrator should implement marginal cost pricing in a form very similar to the DSI tiered rate proposal described above. Montana Power goes on to state that the regional customers and BPA have demonstrated that they can reach settlement on difficult issues. Stauffer, WP-02-E-MP-01, at 9. Do you agree?*

A. No, the tiered rate design as proposed by Montana Power and the DSIs has a flawed first tier allocation methodology, as described in more detail below, as well as being an inappropriate change to BPA's rate design at this time. BPA sends a modified marginal cost price signal now by using marginal prices to shape its melded cost-based energy and demand rates. In addition, BPA has some experience in trying to reach a regional consensus on tiered rates in general and the allocation of low-cost first-tier power in particular. That experience indicates to BPA that Montana Power's optimism about a quick regional resolution may be misplaced.

Q. *Please comment on the DSI tiered rate proposal summarized above.*

A. As stated above in Section 2, BPA agrees that sending the appropriate price signal is a valid method for efficiently allocating a scarce resource. However, the DSIs' tiered rate proposal described in the testimony of Schoenbeck and Bliven, WP-02-E-DS/AL-01, is an inappropriate rate design for this rate case because it would overlay a fundamentally different rate design on an existing power allocation methodology. The allocation of federal power in the May Proposal was determined, in part, by the IOU Residential Exchange Program (REP) Settlement Agreement and the DSI Compromise Approach. Under the IOU REP Settlement, the IOUs are allocated at least 1,000 average megawatts (aMW) of federal power. *See* Burns and Elizalde, WP-02-E-BPA-08. Under the DSI Compromise Approach, the DSIs are allocated 1,486 aMW of federal power. *See* Berwager, *et al.,* WP-02-E-BPA-09. Neither of these agreements contemplated BPA's

adoption of a tiered rate design with a second tier priced at market. One can speculate that had the power market conditions that now prompt the DSIs to propose tiered rates existed during the IOU REP Settlement and the Compromise Approach negotiations, the current 1,000 aMW IOU allocation and the 1,486 aMW DSI allocation might have changed. Clearly, these negotiations would have been greatly influenced by impending power shortages and very high power market and natural gas prices.

Q. Why is it important that the power allocation methodology be conducted in the same time frame as the rate design methodology?

A. From a customer point of view, the allocation methodology that will determine each individual utility's share of the inexpensive first-tier power is arguably the most important aspect of any tiered rate design. The allocation methodology determines the size of the utility's piece of the low-cost pie. Any regional process that would result in a tiered rate design would certainly include extensive negotiations on the subject of low-cost first-tier allocations. The DSI tiered rate proposal assumes an allocation methodology that has nothing to do with tiered rate designs.

Q. Is it likely that in a regional public process to discuss a possible tiered rate design for BPA rates that public power utilities would have negotiated a tiered rate allocation scheme similar to the one proposed by the DSIs?

A. No. The IOU REP Settlement Agreement and the DSI Compromise Approach which serve as the basis for the IOU and DSI first-tier allocation were only successful after assurances were given to the public power utilities that all of their load would be served at BPA's lowest PF rate. In BPA's opinion, had the specter of going to market prices for about 25 percent of their load been discussed with the public power utilities, no regional agreement on the IOU REP Settlement Agreement or the DSI Compromise Approach would have been possible. Following this logic, the DSI tiered rates proposal and the IOU REP Settlement Agreement/DSI Compromise Approach upon which it depends are

mutually exclusive. That is, had the DSI tiered rates proposal been part of the IOU REP Settlement Agreement and the DSI Compromise Approach regional negotiations, it is clear that neither of these agreements would have been concluded in their current form. The public power utilities would certainly have been reluctant to take on the full market risk for as much as 25 percent of their net requirements load, as would occur under the DSIs proposal, in order to ensure that the DSIs and IOUs would receive approximately 1,115 aMW (75 percent of 1,486 aMW) and 750 aMW (75 percent of 1,000 aMW) of low-cost federal power respectively.

Q. *The DSIs argue that one of the many flaws in BPA's proposal is that it requires customers to purchase high cost augmentation power through BPA in order to gain any benefit from the low-cost federal hydro system. Schoenbeck and Bliven, WP-02-E-DS/AL-01, at 15. Do you agree?*

A. BPA's proposal distributes the cost to serve the load subject to the LB CRAC to that same load, *i.e.*, the load served under the Priority Firm Power (PF), Industrial Firm Power (IP), and Residential Load (RL) rate schedules. The DSIs are arguing that the FBS resources should be separated into low-cost FBS (the federal hydro system), and higher-cost FBS (additional system augmentation purchases). Under their proposal described above, the low-cost FBS would serve the base tier, and the higher-cost FBS would serve the marginal tier. Given this tiering of the FBS resources in the DSI proposal, their proposal would allocate the low-cost federal inventory equally among the PF, IP, and RL rate classes. However, if such a tiering of the FBS were to occur, the public utilities could cite Section 7(b)(1) of the Northwest Power Act to argue that they have first call on the low-cost federal system inventory. It is uncertain how the Administrator might decide the question and he would likely initiate a public process to secure a regional consensus on tiering the FBS according to cost.

Q. The DSIs argue that their tiered rates proposal fosters customer choice and allows each customer to choose how to manage its exposure to risk, through purchasing the marginal tier from BPA, purchasing from another provider, or by curtailing load. Schoenbeck and Bliven, WP-02-E-DS/AL-01, at 15. Do you agree?

A. The DSI proposal certainly *forces* customers to make a choice, whether they are confident in their ability to do so, or not. Customers with market experience, their own resource base, or with loads that can be curtailed at a flick of a switch may be able to manage their own risk exposure under the DSI proposal. However, many of BPA's full-service PF customers, who expect to have first call on BPA's low-cost federal inventory, may not have easily curtailable loads and may not feel advantaged by a rate design that forces them to pay market rates for a substantial part of their load.

Q. The DSIs argue that selling the base tier amount at the May Proposal base rates would generate sufficient revenues to cover BPA's revenue requirement exclusive of yet to be made augmentation purchases. Schoenbeck and Bliven, WP-02-E-DS/AL-01, at 15-16. Do you agree?

A. Yes. However, there are literally an infinite number of rate design permutations that would yield full revenue recovery. Therefore, recovery of BPA's revenue requirement through a particular tiered rate scheme is no reason for its adoption.

Q. The DSIs argue that any single customer that purchases less power than forecasted by BPA would pay lower rates under their proposal than under BPA's proposal. Schoenbeck and Bliven, WP-02-E-DS/AL-01, at 20. Do you agree?

A. Yes. A single customer, for example, a DSI with easily curtailable loads, could pay less under the DSI proposal.

Q. The DSIs acknowledge that their tiered rates proposal carries forward whatever allocation is implicit in BPA's proposal. They go on to state, "We simply propose a

somewhat different design of certain rate elements to recover BPA's FBS costs than does BPA." Schoenbeck and Bliven, WP-02-E-DS/AL-01, at 20. Please comment.

A. Where the DSIs see "a somewhat different design of certain rate elements," BPA sees a fundamental change in BPA's historical rate design. The change is so fundamental that BPA would be unlikely to initiate it unilaterally and would certainly rely on regional consensus on questions of allocations of low-cost power and other key elements.

Q. The DSIs argue that their tiered rates proposal allows for greater flexibility and local control for customers. Schoenbeck and Bliven, WP-02-E-DS/AL-01, at 23. Do you agree?

A. Yes. As stated above, the DSI proposal would force customers to make a choice, whether they are confident in their ability to do so, or not.

Q. The DSIs argue that their tiered rates proposal reduces BPA's risks. Schoenbeck and Bliven, WP-02-E-DS/AL-01, at 23. Do you agree?

A. To the extent that the DSI proposal shifts risks to BPA's customers, both those who are willing to take it on and those who are unwilling to take it on, it does reduce BPA's own risks. Some public utilities may ask themselves who is better suited to take on risk, the utility or BPA?

Q. The DSIs argue that their tiered rates proposal reduces BPA's role in the market and the cost of augmentation. Schoenbeck and Bliven, WP-02-E-DS/AL-01, at 24. Do you agree?

A. To the extent that the inability to pay marginal costs may lead to lower loads on BPA specifically and on the west coast in general, BPA's role in the market could be reduced. This lower regional demand could reduce market prices and thus the cost of augmentation.

Q. The DSIs argue that with their tiered rates proposal, an end-use industrial customer may likely be able to curtail some or all of its marginal tier and operate the rest of its facilities

at either a reduced level or through alternative sources. Schoenbeck and Bliven, WP-02-E-DS/AL-01, at 25. Do you agree?

A. Yes. The DSI proposal seems ideally suited for a DSI.

Q. Does that conclude your testimony

A. Yes.